GERMAN SELF-PROPELLED ARTILLERY IN WORLD WAR II • BISON Schiffer

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BISON

AND OTHER 150MM SELF-PROPELLED GUNS

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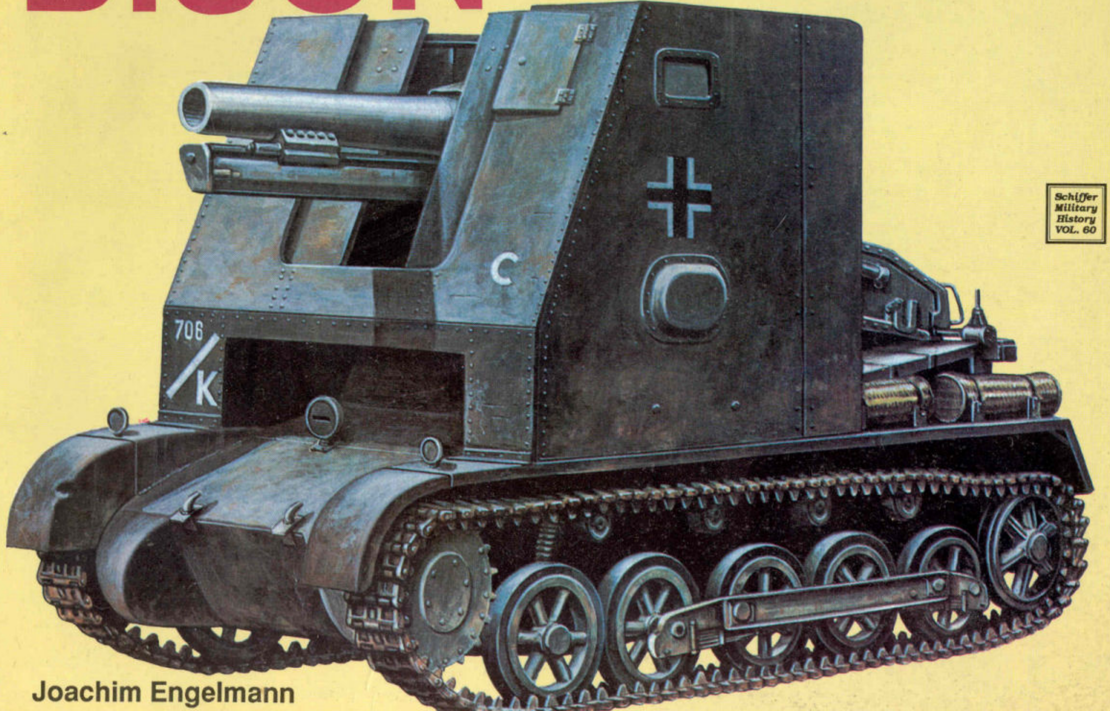
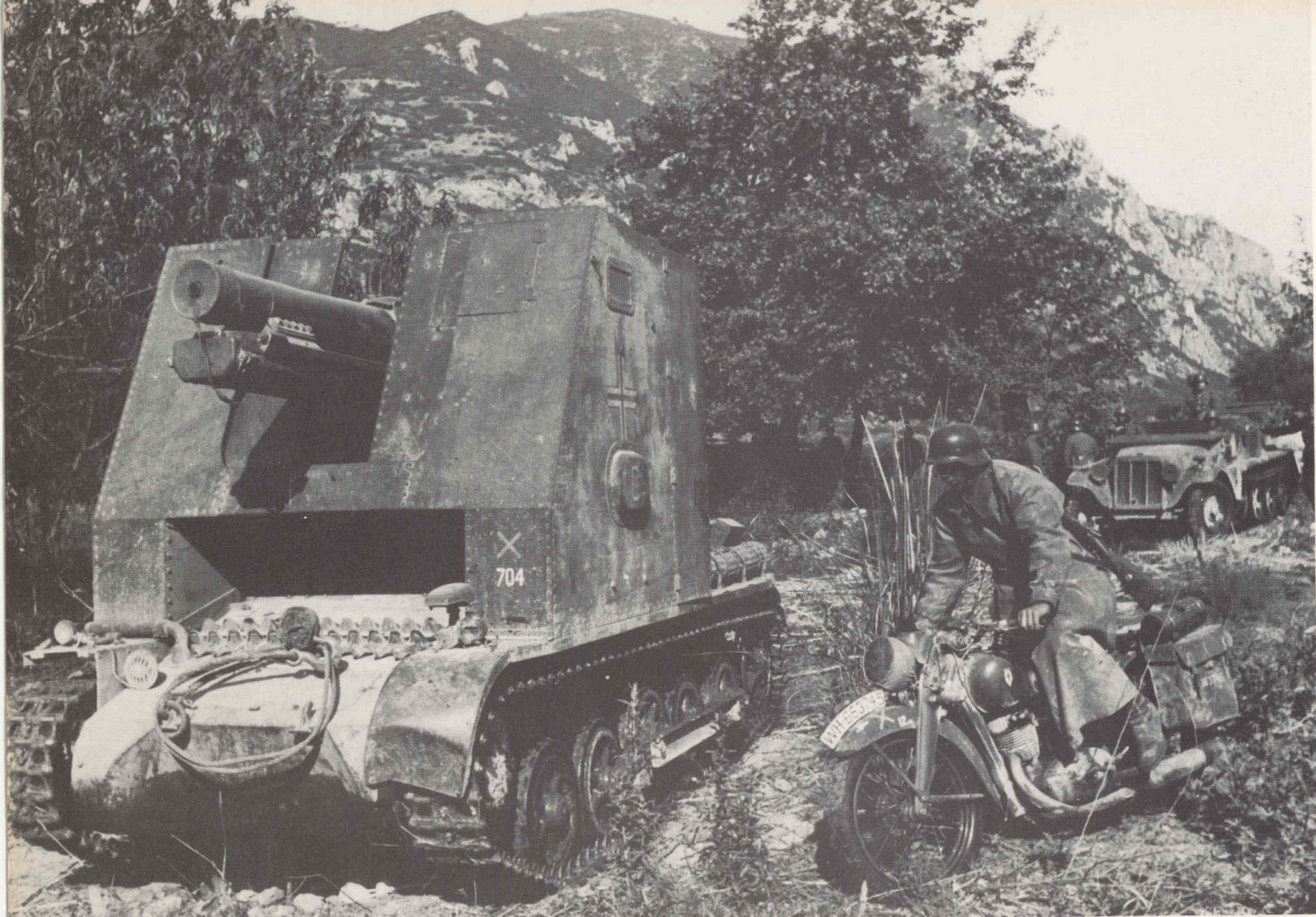


Joachim Engelmann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GERMAN SELF-PROPELLED ARTILLERY IN WORLD WAR II

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Left: A heavy infantry gun (sIG) 33 on Kampfpanzer I B chassis. This belonged to sIG Company 704 of the 5th Panzer Division in Greece, 1941.(BA)

SCHIFFER MILITARY HISTORY
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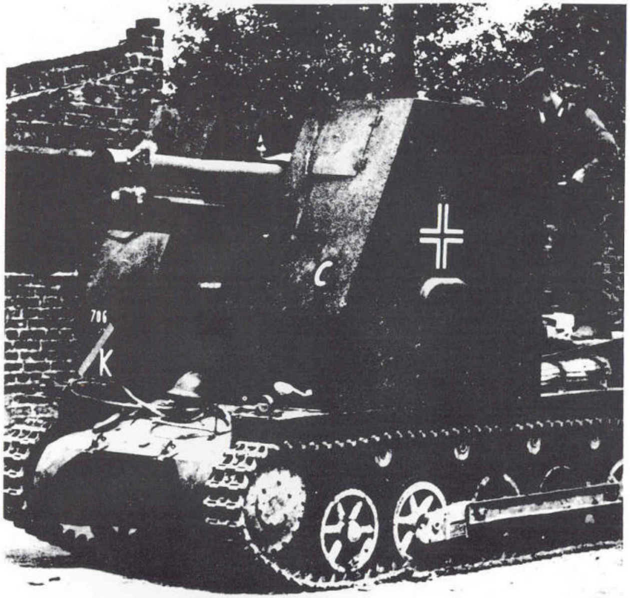
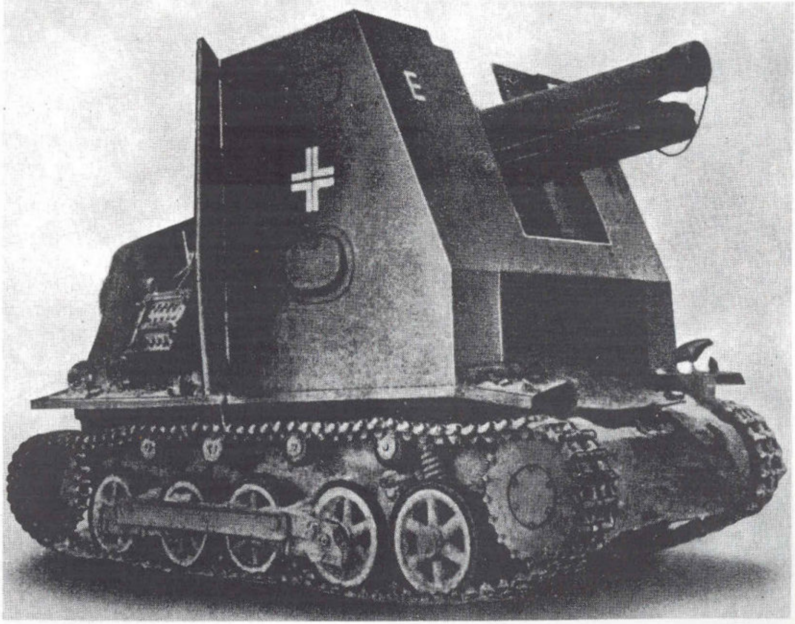


A 150mm sIG 33 of sIG Company 706 of the 10th Panzer Division. A company consisted of 4 officers, 172 NCO's and men, with 6 heavy infantry guns and three light machine guns. By 1944 this gun had ten types of shells, weighing 24.4 to 38 kilograms. It was made by AEG of Berlin-Menningsdorf and the Bohemian Weapons Factory at Strakonitz.(BA)

BISON and Other 150mm Self-propelled Guns

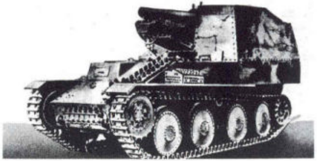
Since the spring of 1939, heavy infantry guns of 150mm caliber could be seen at army training camps such as Neuhammer. For testing purposes the guns were mounted on the chassis of the Battle Tank I B. With their superstructure they stood 2.80 meters high, looking like barn doors on their first workshop and cross-country trips. In the maneuvers of the early thirties it had been shown over and over that the six-horse Heavy Infantry Gun 33 was much too hard to move across country and thus could not be used at all in modern army units — unless it was motorized and armored. At the insistence of Generalmajor Manstein, at that time the administrative chief of the General Staff and a champion of the assault gun, the production of the sIG 33 on the Panzer I self-propelled chassis was improvised in small numbers for use by the motorized infantry, until more purposeful new designs could be created according to plan. In Holland, Belgium and France in 1940, these guns were remarkably successful, despite their faults.

Five different types of gun were developed in all by 1945, not counting the "weapons carrier": In 1940-41 various versions of the "Marder" (Marten) on the chassis of the Skoda PzKpfWg 38(t) gradually came into being as Special Vehicles 138 and 139, and as of February 1943 the sIG 33/1 was also mounted on this chassis in large numbers instead of on that of Kampfpanzer I B. This combination proved itself very well to the end of the war. This Sd.Kfz.138/1 was produced in various vehicle types and was generally called "Bison." At times it was also called "Grille" (Cricket), which inevitably led to confusion with the Krupp series of self-propelled artillery guns. Although it was an improvement, this type also had a comparatively high body.

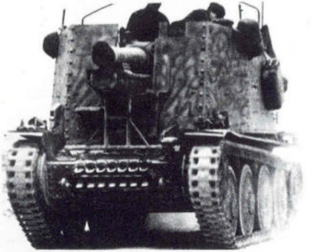


150mm Heavy Infantry Gun (sIG) 33 on Panzer I B chassis.

It was only the production of the Panzer II chassis as of November 1941 that provided a closed design as Sd.Kfz.121-122, and particularly a considerably lower firing height and greater mobility. The earlier Panzer II chassis had been widened by 32 cm and lengthened by 60 cm. Unfortunately, only a few guns were built, and they were used in North Africa.



150mm Heavy Infantry Gun 33 on Panzer 38(t) chassis, Type M — Bison.

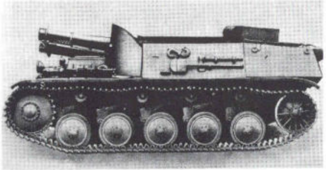


150mm Heavy Infantry Gun 33 on Panzer 38(t) chassis, Type H —Bison.

On the Panzer III chassis, the heavy infantry gun, as Sd.Kfz.141/1, had a twice as heavy mount with greater length and width, giving better off-road performance and sturdiness, but increasing the height without improving the ballistic performance. Until then, all of these self-propelled heavy infantry guns had open hulls for their crews.

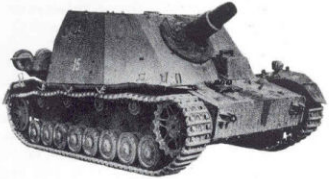
Only the Sturmpanzer IV, Sd.Kfz.166, produced as of April 1943 and known as "Brummbär" (Growling Bear), first put the crew of the heavy infantry gun under armor protection and provided a nearly optimal solution for those times: Of course the short "Sturmhaubitze 43 L/12" howitzer, with its barrel lengthened by only 9 or 11 centimeters, remained the same heavy infantry gun as before, as shown by equipment numbers, shot ranges and utilization. The "150mm Sturmhaubitze L/28" also used as of 1944, with a barrel more than twice as long, making it only some 30 cm shorter than the 18/1 or 40 heavy howitzer of the artillery, was now used exclusively in direct aiming. The installation of both howitzers in the Panzer IV chassis naturally prevented full utilization of their elevation beyond 30 degrees; the heavy infantry gun could not be elevated lower than 15 degrees or higher than 30 degrees, thus losing its steep firing capability with mine effect, while the heavy howitzer lost 15 degrees. For ranges between 13 and 18 kilometers there was also the Heavy Howitzer 18 (Sf) "Hummel" (Bumblebee) with its open hull. Although they were used as such, they were naturally not genuine antitank guns!

The same problem occurred in installing the heavy infantry gun, limited here to thirty rounds, in the Jagdpanzer 38(t) "Hetzer" as of December 1944. Still in all, these weapons were the best types of German assault artil-



150mm Heavy Infantry Gun 33 of Panzer II chassis — Bison.

150mm Heavy Infantry Gun 33 on Panzer III chassis — Bison.



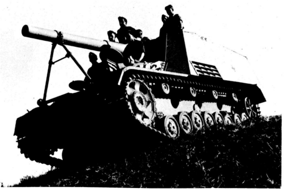
Sturmpanzer IV with the 150mm Sturmhaubitze 43 — Brummbär.

lery, and in the heat of the last battles in the east and west they were so successful that many countries made use of them after the war, and the USA even used them effectively in Korea.

In the 1939 Polish campaign it was still to early for an organized use of these guns by the troops. In the western campaign of 1940 — in addition to the XVI. and XXXXI. AK (mot) — the 1st, 2nd, 5th, 7th, 9th and 10th Panzer Divisions each received one on the heavy self-propelled infantry gun companies 700-706, which also took part in the Balkan campaign in 1941. Company 701 was with the 9th Panzer Division, 702 with the 1st PD, 704 with the 5th PD and 706 with the 10th PD. In the first months of the Russian campaign the IB guns proved to be too weak and disappeared from the scene, platoon after platoon; only Company 704 stayed with the 5th PD until 1943. After the newly established heavy self-propelled infantry gun companies 707 and 708, with their Panzer II guns, were transferred en masse to North Africa at the beginning of 1942, the panzer-grenadier regiments (gp) of the Panzer divisions gained, as of the autumn of 1942, an 11th company of their regiments as a heavy infantry company with Panzer III mounts, in addition to their Panzer-Grenadier Engineer Company B (12th company), while the heavy companies of the panzer-grenadier battalions each gained a platoon of motorized light infantry guns. Later, when the panzer-grenadier battalions were downgraded, the heavy self-propelled infantry gun companies were numbered 10 or 9.

A heavy self-propelled infantry gun company consisted of three officers, 31 NCO's and 108 men, for a total of 142. It had five medium SPW, five tracked vehicles, five personnel carriers, seven Lkw (gl) and one Lkw (o) trucks, nine "Maultiere" with nine trailers to carry ammunition, one 12-ton towing tractor as a wrecker, and six heavy self-propelled infantry guns, plus three light machine guns, 17 machine pistols, 92 rifles and 28 pistols, making a well-armed and equipped unit. On the other hand, the motorized heavy infantry gun company, 13th company of a motorized grenadier regiment — like that of a panzer-grenadier regiment — had only four, or sometimes two, heavy self-propelled infantry guns and thus could set up only one or two heavy platoons.

The Sturmpanzer IV's, though, like the assault gun units as army troops, were united in the first Sturmpanzer Units 216 to 219 and soon saw action at Kursk and Saporoshe, later in Italy and the west, and then near Warsaw and on the Oder. As of November 1, 1943, their companies each had 14 heavy



150mm armored howitzer 18/1 on gun car III/IV —called "Hummel." It saw its first action in the Kursk area during Operation "Citadel" in the summer of 1943.

infantry guns or heavy field howitzers, with a personnel strength of three officers, 55 NCO's and 68 men, for a total of 126 soldiers. Here the number of non-commissioned officers was almost doubled and that of the men was reduced by forty! The Heavy Infantry Gun 33/2 on the "light and medium weapons carriers", developed by Ardelt and Krupp from the 38 (d) mount and used in the last weeks of the war, only replaced broken-down guns wherever needed and possible.

With a total of 38 Panzer divisions, 228 heavy self-propelled infantry guns were needed to keep the units at full strength in the field, not counting industrial and training use. The Heavy Infantry Gun 33, Device No. 6303, was made by the AEG in Berlin-Henningsdorf and the Böhm Weapons Factory in Strakonitz (southeast of Pilsen). Each one required 3500 work hours and cost 20,450 RM, two-thirds the work and half the price of the artillery's Heavy Field Howitzer 18. The "Altmark Chain Factory" (Alkett) of Berlin-Spandau and Falkensee produced 38 IB chassis, 20 Panzer II and some 180 Panzer III chassis for them. Afterward the Bohemian-Moravian Machine Factory of Prague produced 370 Panzer 38(t) H and M mounts and rebuilt 30 "Hetzer", of which 173 had reached the front by the war's end, a sign of the weapon's good luck and good quality. The Sturm-Panzer IV developed by Alkett was originally fitted with 55 guns made by the German Iron Works of Duisburg and Skoda of Pilsen, while the chassis were made by the Nibelungen Works of St. Valentin, the hulls and armor by the Upper Danube Iron Works of Linz and Böhler Brothers of Kapfenberg, and the superstructure by the Bismarck Steel Mills of Königshütte in Upper Silesia. A chassis cost 103,400 RM; in all, 298 vehicles were produced and eight more rebuilt. "Weapons carriers" by Ardelt of Eberswalde and Krupp of Essen scarcely equaled the first Chassis IB in numbers. There were at least 1000 heavy self-propelled infantry guns, four times as many as were needed at the front in four years. Production was centered in the heart of Moravia and nearby areas.

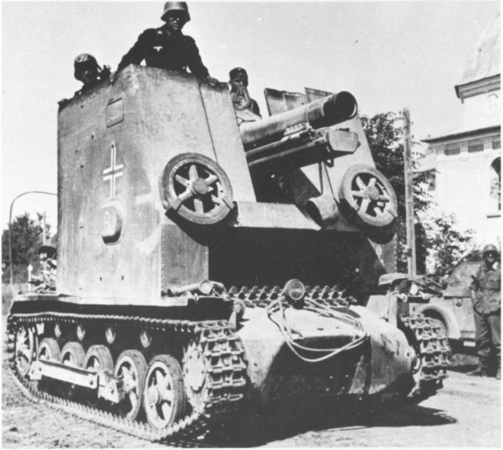
The uniqueness and strength of the heavy self-propelled infantry gun companies was their possession of quickly usable "heavy escort artillery" in armored units. This had never existed before! In addition, they featured climbing and fording ability, especially across country, a wide range of action and quick readiness to fire, including direct aiming. A company was usually deployed in three platoons of two heavy self-propelled infantry guns each, but it could also be used as a unit of six guns. In contrast to the infantry gun companies of the motorized and panzer-grenadier regiments, it was uniformly armed. With maximum shot ranges of 4300 to 4700 meters, it reached individual and surface targets in the front area of the battlefield, at about 3500 meters, easily and provided direct fire support. Using the 25-kilogram 150mm Igr 39 HI/A shell, it could penetrate 160mm of armor despite its low muzzle velocity of 240 meters per second! The crew had sufficient shrapnel protection. Its only weakness was the too-short lifetime of the barrel, at 1500 rounds only 10% (presumably because of its heavier recoil braking) that of the tractor- or horse-drawn heavy infantry gun. Until 1942, the heavy self-propelled infantry gun was the Wehrmacht's only self-propelled gun mount.

After the heavy self-propelled infantry gun had been in service for some time and the light field howitzer had already been made in self-propelled form, it was decided in July of 1942 to mount the heavy Field Howitzer 18, till then horse-drawn in two units or motorized with the gun towed, on a self-propelled chassis too, at least as an interim solution to provide quick fire. To shorten the development time, Alkett of Borsigwalde built it of available Panzer III and IV parts and the upper mount of the heavy Field Howitzer 18/1 without a muzzle brake, mounting it on the Gun Car III/IV of the heavy Field Howitzer 18 or 40 (Sf), Sonder-Kfz. 165. In the process, the engine and drive train of the Panzer III J were moved to the center, the running gear, radiator, ventilator, air filter and exhaust system of the Panzer IV F were added, and the driveshaft, oil reservoir, muffler and ventilator shaft were added as special equipment.

The first batch of 200 was to be ready by May 12, 1943 for use in the "Citadel" offensive. Only the 3rd battery of each Panzer artillery regiment received six guns of this type, soon named "Hummel" (Bumblebee) — similar to the heavy self-propelled infantry gun companies in being the only such unit in the division. It is interesting to compare the two units. Of the three types, Alkett Gw III/IV "Hummel" sFH 18/1 L/30, range 13.3 km, Rheinmetall Gw V "RhB" sFH 40 L/32. range 15.6 km, and Krupp Gw V "Grille 15" sFH 40 L/31, range 18 km, the last was not put into production.

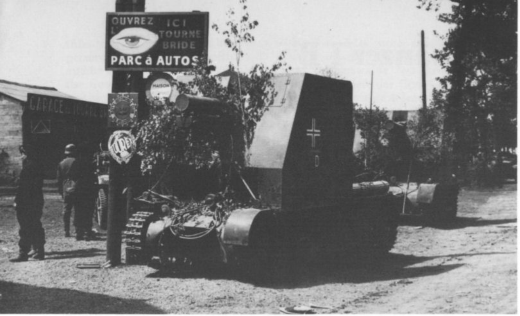
The "Hummel" was the best German armored howitzer in the war. As of February 27, 1944 its production was halted because it seemed to be plentiful. Without training units and schools, 228 of them were used in the field; in two years, 666 of them were made, more than twice the number needed.

On the Chassis of Kampfpanzer I B

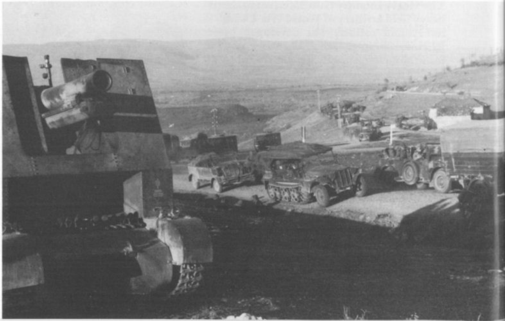


The Heavy Infantry Gun 33, equal to the heavy field artillery of World War I with its 150mm caliber, was developed by Rheinmetall in 1927 to replace the heavy mine launcher, and reached the troops in 1933.

This very effective gun was actually a mortar-howitzer, as it could be fired at high or low elevations. The shot range reached 4700 meters, the rate of fire two to three rounds per minute. It weighed 1.8 tons ready to fire. Six charges gave it a good trajectory. The muzzle velocity of 240 meters per second was only half as great as that of the lFH 18. But it also fired fog and hollow-charge shells. Despite all attempts to decrease its weight, it remained too ponderous for off-road use, particularly in horse-drawn form.

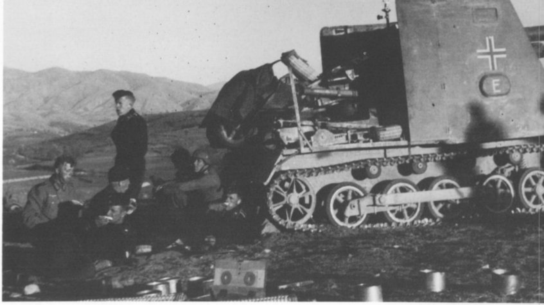


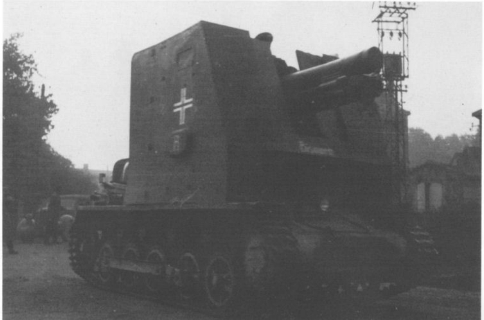
A heavy self-propelled infantry gun platoon pauses while on the march in Belgium in 1940. The heavy infantry gun companies were generally deployed in platoons. In February of 1940, Alkett produced 38 of the guns, with chassis numbers 10478 to 16500. With a four-man crew, the gun weighed 8.5 tons; it was 4.67 meters long, 2.06 meters wide and 2.8 meters high. Its 6-cylinder Maybach NL38TR engine produced 100 HP. The fuel tank held 146 liters, giving a 140-kilometer range at 40 kph.(BA)



A heavy self-propelled infantry gun of a company of the 7th Panzer Division in a supervisory position along the advance route in Greece in 1941, during a march pause along a winding road — the crew waits behind the gun.

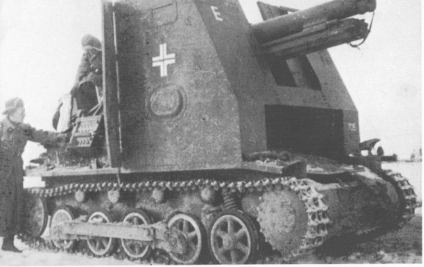
As did the artillery, these units used Panoramic Telescope 36. The Heavy Infantry Gun 33 was simply set on the platform of the Armored Vehicle I B and fitted with a 6- to 13-mm open shield. Note the poor blend of the overly high superstructure and weak chassis.

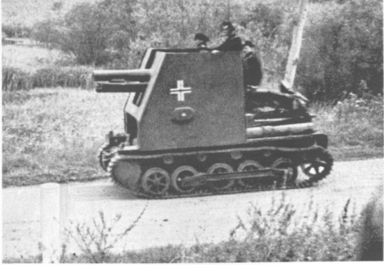




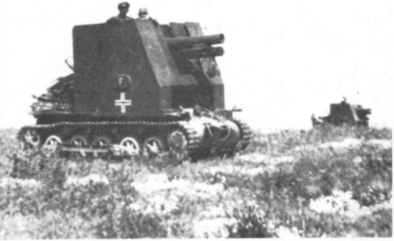
Above: "Firing pause" of the 5th gun of a heavy self-propelled infantry gun company in the Balkan campaign of 1941. The open rear and panoramic scope are easy to see. The four crewmen wear black Panzer uniforms.(BA)

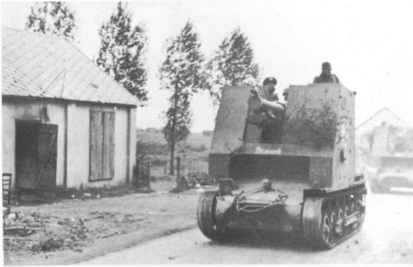
Left: The 2nd gun of the 2nd Panzer Division's self-propelled heavy IG company, later 11./SchtzRgt 304, moves forward in the western campaign. The crews often named their guns after noted personalities. In the first months of the Russian campaign most guns of this type disappeared from the scene; only the 5th Panzer Division kept some until the summer of 1943.(BA)

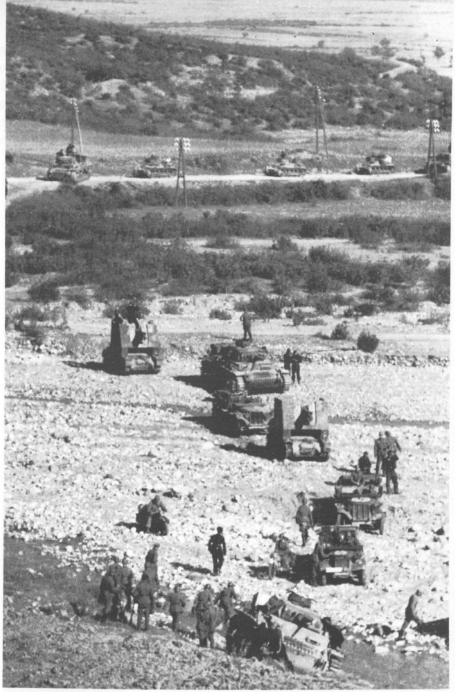




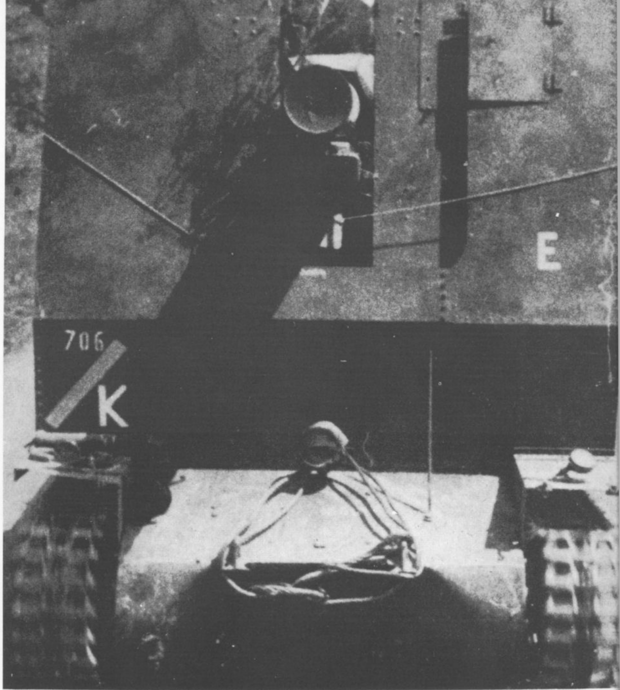
Various views of this ill-dimensioned gun on tracks.





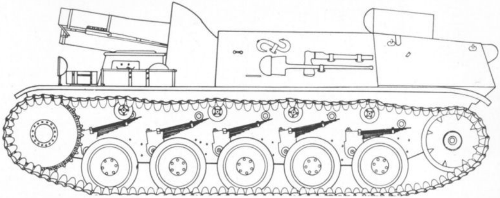


Two guns of self-propelled Heavy Infantry Gun Company 704 of the 5th Panzer Division in Greece.

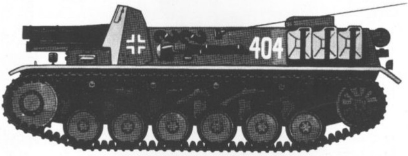


The 4th gun of self-propelled Heavy Infantry Gun Company 706, which belonged to the 10th Panzer Division. The photo shows its rugged form clearly.

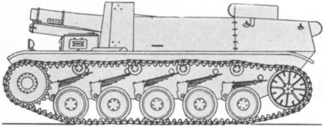
The next version of the heavy self-propelled infantry gun, seen as designed and in two versions, very clearly shows the use of the stronger Panzer II chassis with more road wheels and the overall height 0.9 meters lower. In addition, the gun's center of gravity is lower and more favorable. The engine is in back.



Design drawing of the sIG (Sf) on Panzer II, Type A, still with five road wheels and low body.



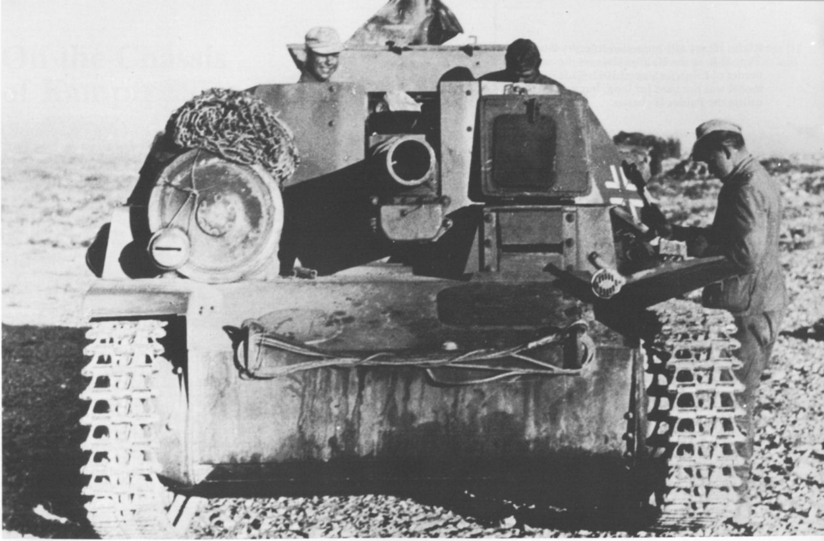
Right: When actually built, the gun was given a lengthened chassis with six road wheels, a changed front shield and more flattened sides than Type A.



Above: Drawing of Type A, but with a different shield from that shown above.

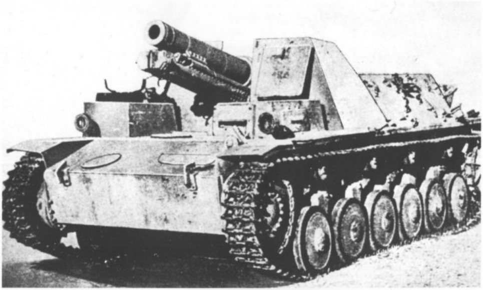
On the Chassis of Kampfpanzer II

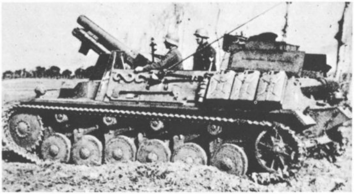
Sd.Kfz.121/122



The twelve guns of heavy self-propelled infantry gun companies 707 and 708, made in November and December of 1941, were sent to North Africa early in 1942 and took part in the spring offensive at Gazala with the 15th and 21st Panzer Divisions, as well as in all battles until May 1943. Their armor was increased to 15-30mm. Here a gun is undergoing technical inspection for readiness during a lull in a battle.(BA)

Right: Heavy self-propelled Infantry Gun 33, Type II B, at the Halfaya Pass on the eastern border of Libya in May of 1941. This interim model was not used for long, but was made to utilize the Panzer II chassis.





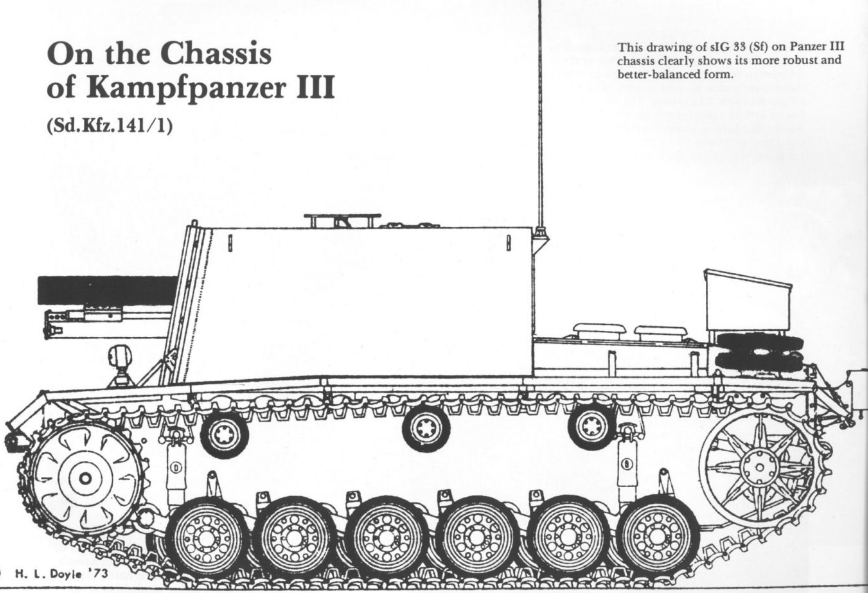
Above: The sIG 33 (Sf), Type II A, in firing position, obviously during drill on an exercise or troop training field.

With the same crew, the gun weighed 11.2 tons, 2.7 tons more, and was 74 cm longer, 5.41 meters overall, and — 54 cm wider — now had a 2.6-meter track. The firing height, though, was lowered by 1.21 meters, the barrel 90mm longer. For self-defense the gun now had one MG 34. It also had an intercom with FuG f radio. With its Maybach HL 62 TRM engine, it had a greater range of 190 km on and 125 km off the road. The chassis alone cost 49,228 RM, and production took twelve months.

On the Chassis of Kampfpanzer III

(Sd.Kfz.141/1)

This drawing of sIG 33 (Sf) on Panzer III chassis clearly shows its more robust and better-balanced form.



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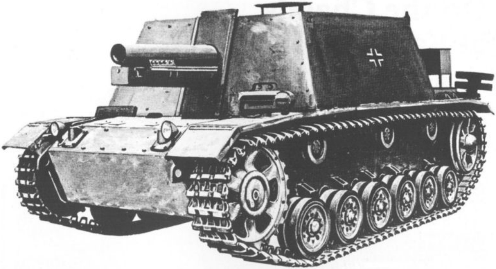
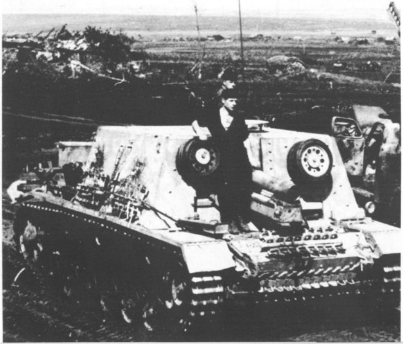
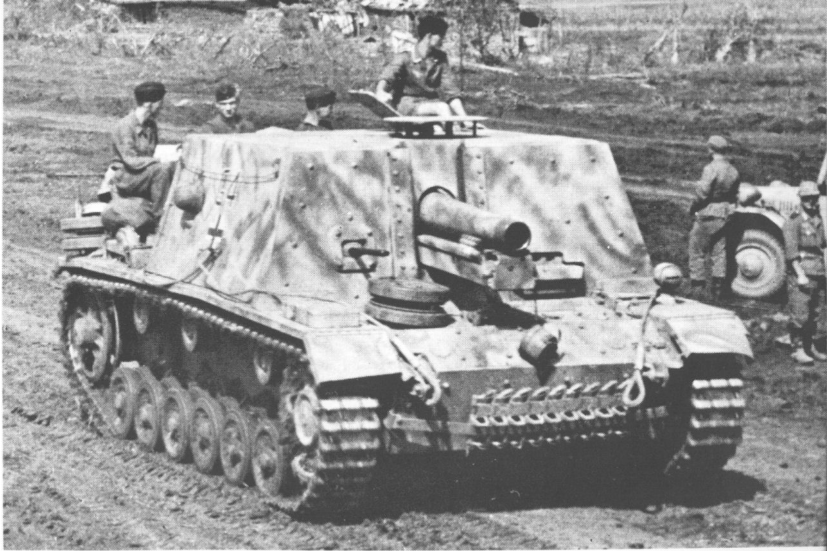
This type weighed 22.3 tons, twice as much as the previous one! Its height increased again to 2.5 meters, its length grew by a meter to 6.41 meters, its width to 2.97 meters. The firing height was now 2.15 meters. The range, at 155 km on and 95 km off the road, was 30 km less. But the front armor was strengthened to 80mm, the sides to 50mm. The machine gun was mounted to the right of the gun.



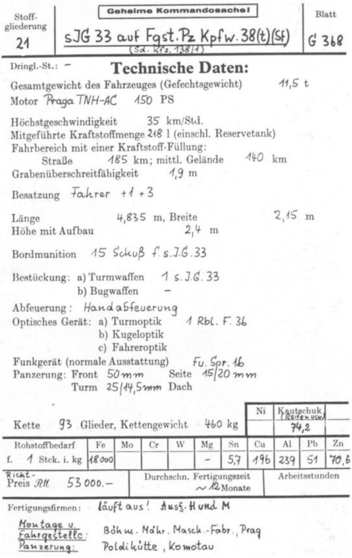
Above: Type F of sIG 33 (Sf) on Panzer III, Sd.Kfz.141/1, seen from the left front. About 180 of them were made.



Left: When an armored heavy gun failed badly in the street fighting at Stalingrad in September of 1942, Alkett rebuilt twelve of them into Assault Gun III by mid-October. In their haste, they forgot the shear telescope. Further production is not known. To the right of the gun is the driver's lookout with visor, to the left is the machine gun.



The chassis of sIG 33 (Sf) is now higher than the superstructure enclosing the gun.



Geheime Kommandosache!

Stoffgliederung		Blatt
21	sJG 33 auf Fgst. Pz Kpfw. 38(t)(Sf) (Sd. Kfz. 138/1)	G 368

Dringl.-St.: –

Technische Daten:

Gesamtgewicht des Fahrzeuges (Gefechtsgewicht) 11,5 t
Motor Praga TNH-AC 150 PS

Höchstgeschwindigkeit 35 km/Std.
Mitgeführte Kraftstoffmenge 218 l (einschl. Reservetank)
Fahrbereich mit einer Kraftstoff-Füllung:
Straße 185 km; mittl. Gelände 140 km
Grabenüberschreitfähigkeit 1,9 m

Besatzung Fahrer +1 +3

Länge 4,835 m, Breite 2,15 m
Höhe mit Aufbau 2,4 m

Bordmunition 15 Schuß f. s.J.G. 33

Bestückung: a) Turmwaffen 1 s. J.G. 33
b) Bugwaffen –
Abfeuerung: Handabfeuerung
Optisches Gerät: a) Turmoptik 1 Rbl. F. 36
b) Kugeloptik
c) Fahreroptik
Funkgerät (normale Ausstattung) Fu. Spr. 16
Panzerung: Front 50 mm Seite 15/20 mm
Turm 25/14,5 mm Dach

Kette 93 Glieder, Kettengewicht 460 kg

Ni	Kautschuk (Reifen usw.)	
	74,2	

Rohstoffbedarf	Fe	Mo	Cr	W	Mg	Sn	Cu	Al	Pb	Zn
f. 1 Stck. i. kg	18000				–	5,7	196	239	51	70,6

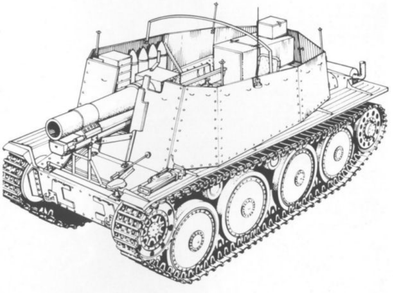
Richt-Preis RM 53000.–	Durchschn. Fertigungszeit ~12 Monate	Arbeitsstunden

Fertigungsfirmen: läuft aus! Ausf. H und M

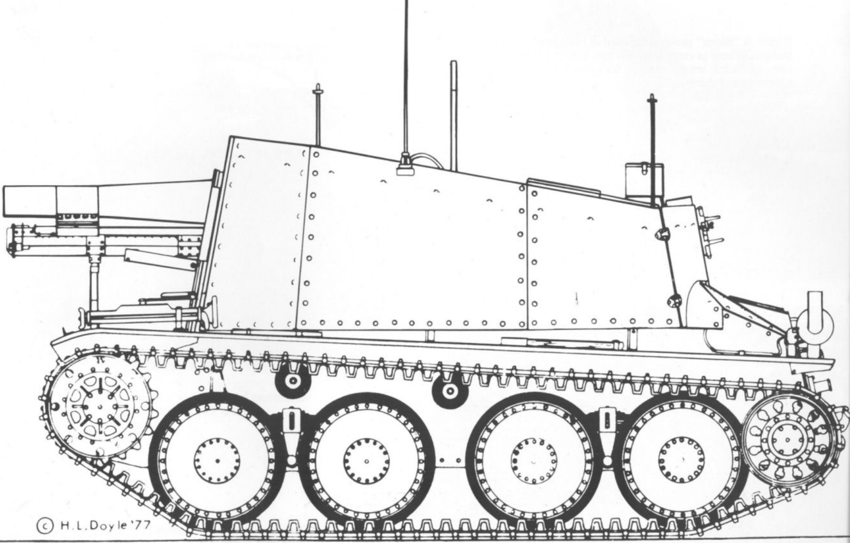
Montage u. Fahrgestelle: Böhm. Mähr. Masch.-Fabr., Prag
Panzerung: Poldihütte, Komotau

On the Chassis of Kampfpanzer 38(t) "BISON"

(Sd.Kfz.138/1 — Type H)

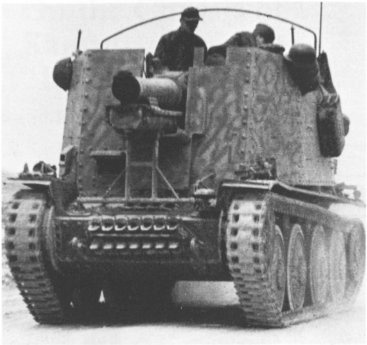


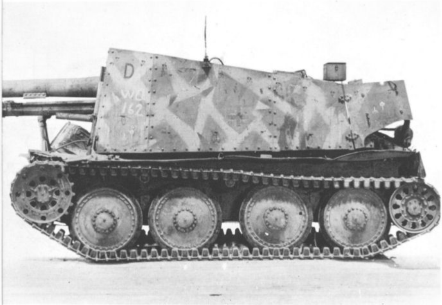
The "Bison" was designed by Alkett on the chassis of the Skoda 38(t) tank; its prototype was made in October of 1942 by the bohemian-Moravian Machine Factory in Prague. As of February 1943, 90 Type H guns were produced, with the typical four disc road wheels and, for the first time, a closed fighting compartment, thus with no machine gun and thinner armor.



In its characteristics, if not in appearance, the "Bison" resembled the heavy infantry gun on Panzer II chassis, but was shorter and narrower, thus only half as heavy and more mobile, a great advantage, while its height of 2.47 meters remained about the same, and its firing height of 1.96 meters was 19 cm lower. The gun had excellent off-road capability.

Right: A "Bison" moving forward at full speed, with a transverse bow to carry a canvas top. Under the gun cradle one can clearly see the massive lock that prevented any movement of the muzzle.

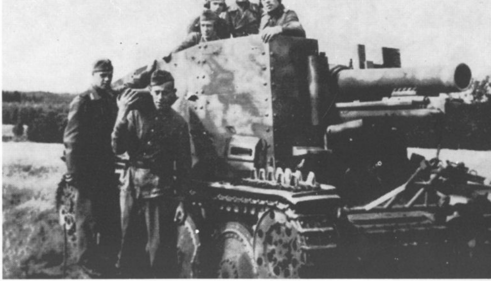


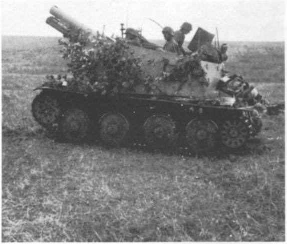


"Bison" Type H from the left side. obviously a repaired vehicle, fitted with FuSprGer 1 b radio and carrying 15 rounds.

Despite the frequent confusion as to type names, this gun never officially was called "Grille" (Cricket). Foreign assertions are incorrect. On the basis of its chassis, it is basically a member of the "Marder" (marten) family, which profited from the good qualities of the Panzer 38. Types H and M were basically equal in quality.

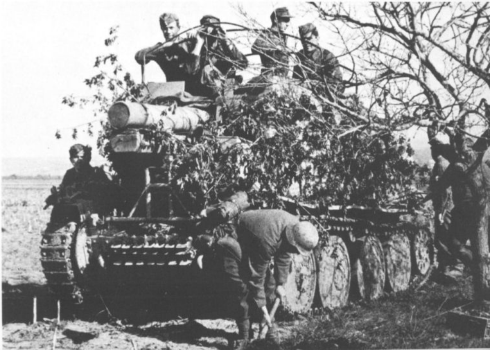
Right: A "Bison" of the 9./Panzer-Grenadier Training Regiment (gp) 901 during sharpshooting — crew and observers can be seen clearly. The Panzer Lehr (Training) Division was also equipped with this gun.

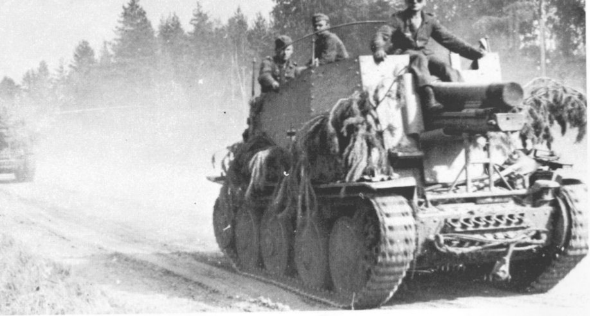




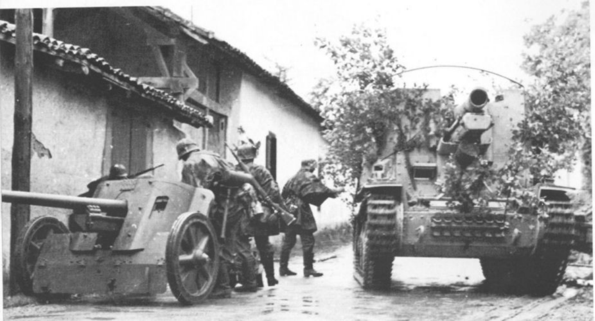
Above: In firing position, the crew and panoramic telescope projected above the side armor, essentially unprotected.

In open country and in case of enemy air superiority, the crew had to do all they could to camouflage their rather large gun. Bows keep the fighting compartment open.



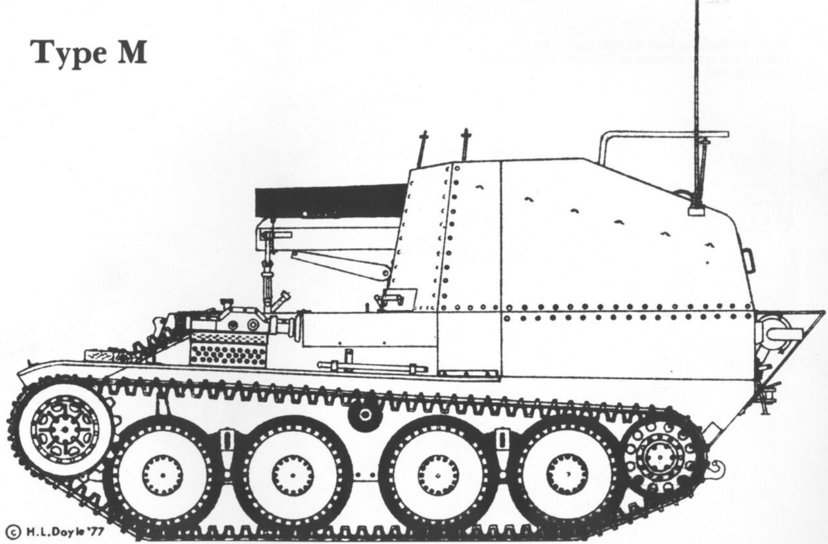


A "Bison" platoon going into action at full speed, Russia 1943 — the gun all the way down, remains of the camouflage from the readying position still seen on the gun, spare chains and towing cable on the front.



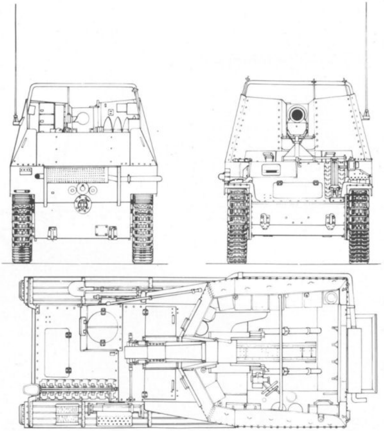
During training for anti-invasion action in France, 1944, a "Bison" passes a towed 50mm Pak 38 L/60 left by the road — two very different weapons!

Type M

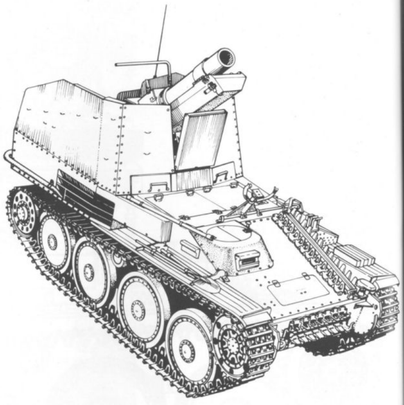


The "Bison" Type M now had its engine in the middle and the Heavy Infantry Gun 33/1 moved backward. Thus more room was gained for the crew, as well as better stability thanks to better balance. The gun was thus more effective in action. Its production began in April of 1943 and was continued until September of 1944.

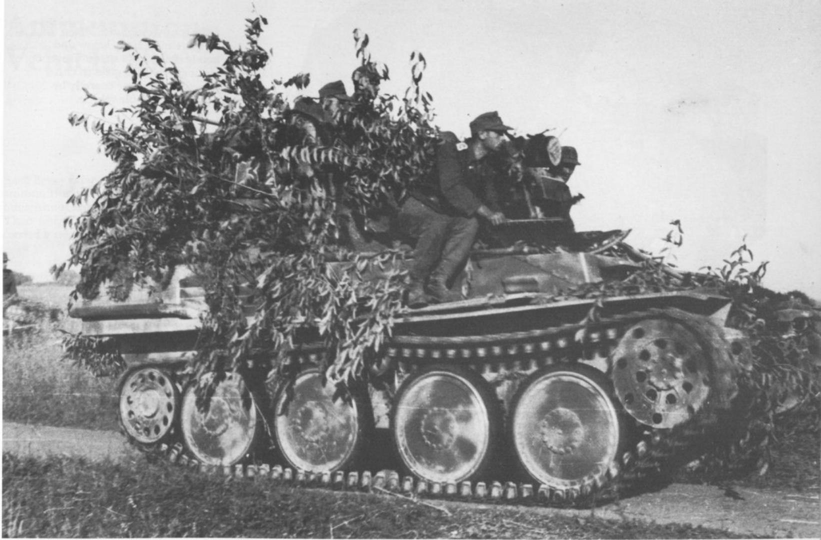
Right: The drawing from the right front, with the heavy infantry gun at an elevation of 70 degrees, confirms this judgment.(BA)



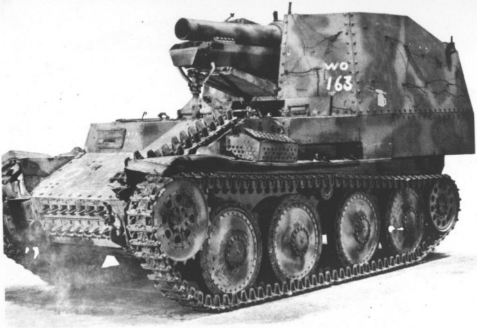
The front and rear line drawings and the top view of the "Bison" Type M show it to be a well-proportioned and balanced design.



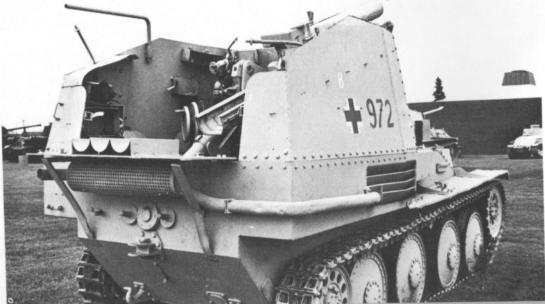
In all, 282 of the improved Type M "Bison" were made, making a total of 372 guns of Types H and M together, by far the greatest numbers of all self-propelled heavy infantry guns. Here the high point of the heavy self-propelled infantry gun with open fighting compartment was attained.



Right side view of the "Bison" M — the ventilation and the high exhaust pipes are easy to see, as is the movable panel of the fighting-compartment armor below the heavy infantry gun; Russia, September 1943.(BA)

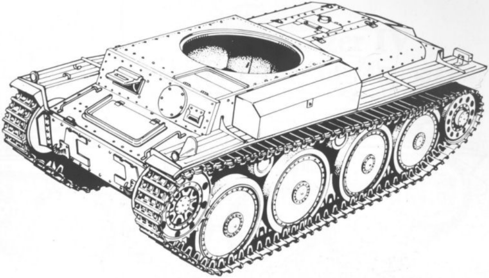


Left front view of the "Bison" M — spare track links below and beside the driver's space. Traverse aiming over 12 degrees in either direction was done coarsely by turning the whole vehicle.



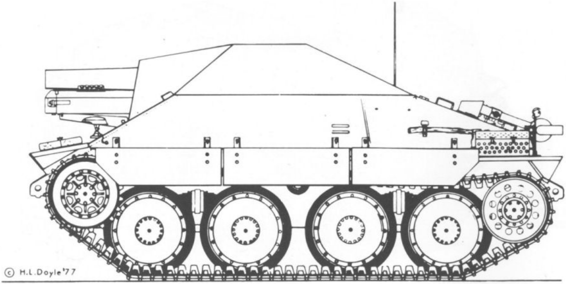
Right: A fine view of the back of the "Bison" M, looking into the fighting compartment and showing the ammunition racks, recoil rails for the heavy infantry gun, and the aiming apparatus used by the gunner, whose seat is at the left side.

Ammunition Vehicle 38(t)



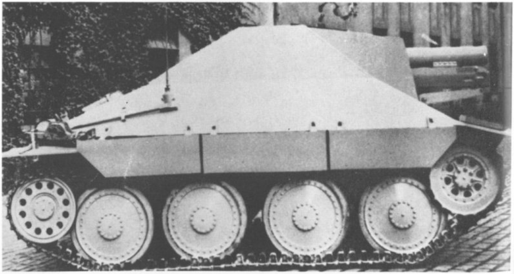
Each heavy infantry gun company had two ammunition vehicles, naturally of the same type but without armored turrets and machine guns. Their weight was reduced to eight tons, and they carried a two-man crew.

Right: Repaired vehicles, often of older types as well, were usually rebuilt for such use. From January to May of 1944, 102 ammunition vehicles of 38(t) M type were built. Here is a Type H near Stalingrad in the winter of 1942.(BA)

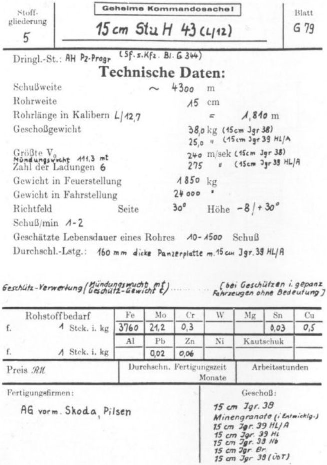


The Jagdpanzer 38(t) Hetzer, of which 2584 were produced since April of 1944, was equipped with the Heavy Infantry Gun 33 from December 1944 to February 1945, with the gun under full armor for the first time.

In all, 24 guns of this type were built new and six were rebuilt from repaired Hetzers, making a total of 30 guns of this type. The very promising design had a short life because of the war's end.



On the Jagdpanzer 38(t) "Hetzer"



Stoff-gliederung 5

Geheime Kommandosache!

15 cm Stu H 43 (L/12)

Blatt G 79

Dringl.-St.: AH Pz-Progr (Sf. s. Kfz. Bl. G 344)

Technische Daten:

Schußweite ~ 4300 m
Rohrweite 15 cm
Rohrlänge in Kalibern L/12,7 = 1,810 m
Geschoßgewicht 38,0 kg (15 cm Jgr 38)
25,0 " (15 cm Jgr 39 HL/A
Größte V_0 240 m/sek (15 cm Jgr 38)
Mündungswucht 111,3 mt
Zahl der Ladungen 6 275 " (15 cm Jgr 39 HL/A
Gewicht in Feuerstellung 1850 kg
Gewicht in Fahrstellung 24 000 "
Richtfeld Seite 30° Höhe −8/+30°
Schuß/min 1-2
Geschätzte Lebensdauer eines Rohres 10-1500 Schuß
Durchschl.-Lstg.: 160 mm dicke Panzerplatte m. 15 cm Jgr. 39 HL/A

Geschütz-Verwertung (Mündungswucht mt / Geschütz-Gewicht t) …… [bei Geschützen i. gepanz Fahrzeugen ohne Bedeutung]

Rohstoffbedarf	Fe	Mo	Cr	W	Mg	Sn	Cu
f. 1 Stck. i. kg	3760	21,2	0,3			0,03	0,5
	Al	Pb	Zn	Ni	Kautschuk		
f. 1 Stck. i. kg		0,02	0,06				

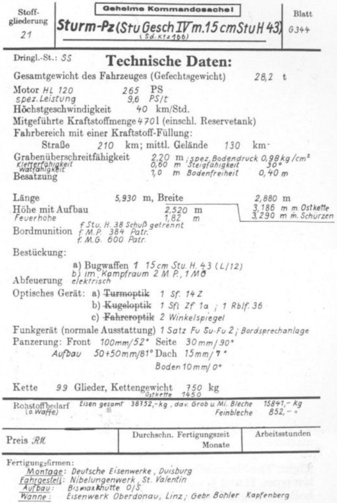
Preis RM	Durchschn. Fertigungszeit Monate	Arbeitsstunden

Fertigungsfirmen:
AG vorm. Skoda, Pilsen

Geschoß:
15 cm Jgr. 38
Minengranate (i. Entwicklg.)
15 cm Jgr. 39 HL/A
15 cm Jgr. 39 Hl
15 cm Jgr. 38 Nb
15 cm Jgr. Br.
15 cm Jgr 39 (ÜbT)

Above are the data on the weapon, at right those of the heavy self-propelled infantry gun on Panzer IV chassis, the design of which had already been presented to Hitler for a decision by the Alkett firm on October 6, 1942. On February 7, 1943 he advocated, as of May 12 of that year, a pre-series of 40 units with an improved heavy infantry gun, then 20 more. Planned production followed as of November 1943.

Sturmpanzer IV "Brummbär" (Sd.Kfz.166)



Stoff-gliederung 21

Geheime Kommandosache!

Sturm-Pz (Stu Gesch IV m. 15 cm Stu H 43) (Sd.Kfz 166)

Blatt G344

Dringl.-St.: SS

Technische Daten:

Gesamtgewicht des Fahrzeuges (Gefechtsgewicht) 28,2 t
Motor HL 120 265 PS
spez. Leistung 9,6 PS/t
Höchstgeschwindigkeit 40 km/Std.
Mitgeführte Kraftstoffmenge 470 l (einschl. Reservetank)
Fahrbereich mit einer Kraftstoff-Füllung:
Straße 210 km; mittl. Gelände 130 km
Grabenüberschreitfähigkeit 2,20 m; spez. Bodendruck 0,98 kg/cm²
Kletterfähigkeit 0,60 m Steigfähigkeit 30°
Watfähigkeit 1,0 m Bodenfreiheit 0,40 m
Besatzung

Länge 5,930 m, Breite 2,880 m
Höhe mit Aufbau 2,520 m 3,186 m m. Ostkette
Feuerhöhe 1,82 m 3,290 m m. Schürzen
Bordmunition f. Stu. H. 38 Schuß getrennt
f. M.P. 384 Patr.
f. M.G. 600 Patr.

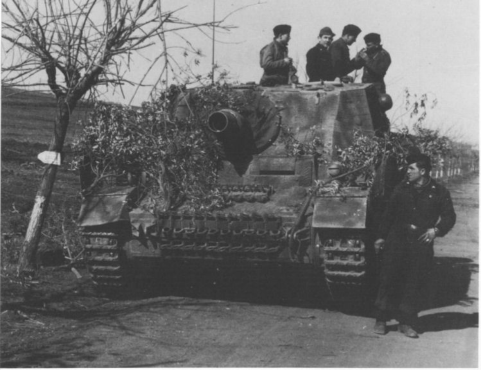
Bestückung:
a) Bugwaffen 1 15 cm Stu. H. 43 (L/12)
b) im Kampfraum 2 M.P., 1 MG
Abfeuerung elektrisch
Optisches Gerät: a) ~~Turmoptik~~ 1 Sf. 14 Z
b) ~~Kugeloptik~~ 1 Sfl Zf 1a ; 1 Rblf. 36
c) ~~Fahreroptik~~ 2 Winkelspiegel
Funkgerät (normale Ausstattung) 1 Satz Fu 5u-Fu 2; Bordsprechanlage
Panzerung: Front 100 mm/52° Seite 30 mm/90°
Aufbau 50+50 mm/81° Dach 15 mm/7°
Boden 10 mm/0°

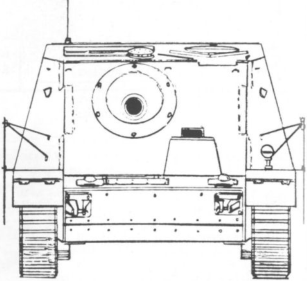
Kette 99 Glieder, Kettengewicht 750 kg
Ostkette 1450

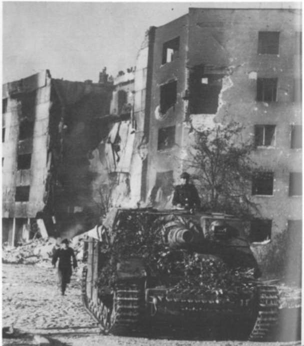
Rohstoffbedarf (o. Waffe) Eisen gesamt 38152,- kg, dav. Grob u. Mi. Bleche 15841,- kg
Feinbleche 852,- "

Preis RM	Durchschn. Fertigungszeit Monate	Arbeitsstunden

Fertigungsfirmen:
Montage: Deutsche Eisenwerke, Duisburg
Fahrgestell: Nibelungenwerk, St. Valentin
Aufbau: Bismarkhütte O/S
Wanne: Eisenwerk Oberdonau, Linz; Gebr. Böhler Kapfenberg



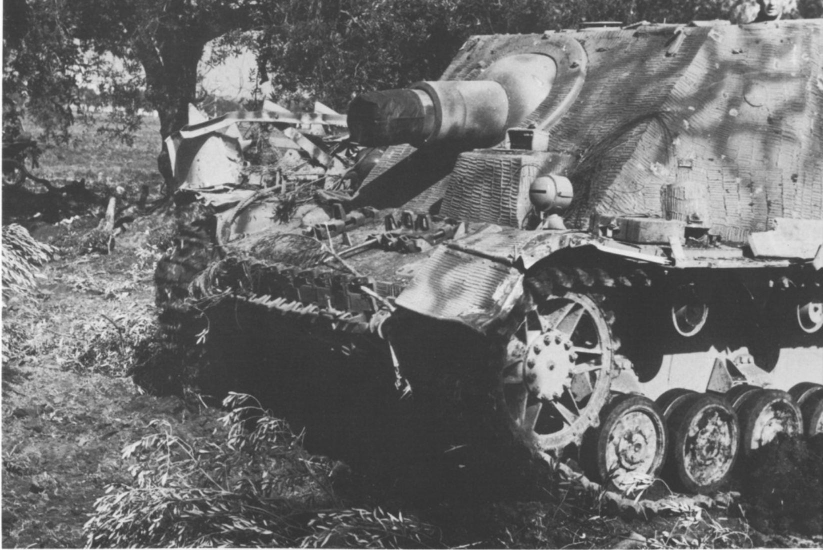




Above: A break for a "Sturm-Panzer" on the march in Italy in 1943. Hitler named the gun thus as a counterpart to the "Sturm-Haubitze." The first series consisted of 52 new Panzer IV Types E and F, with doubled 100mm front armor, 60mm on the sides, a shutter on the observation slit for the driver, but still no machine gun.(BA)

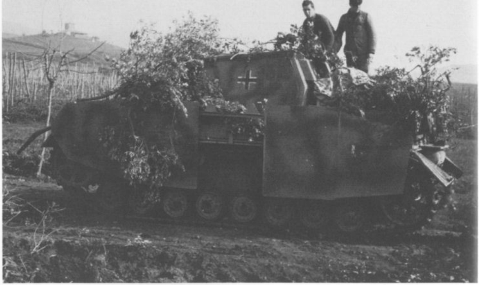
Upper right: Drawing of the second series with driver's periscope, StuH 43/1 at a firing height of 1.82 in the assault-gun casemate, but still no machine gun.

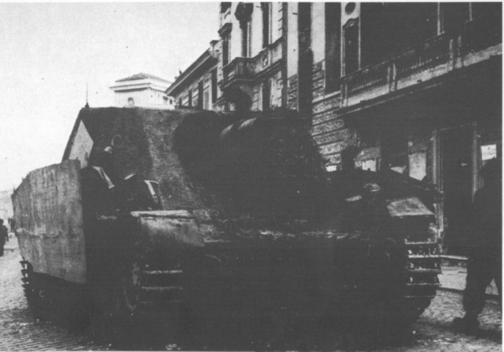
Right: The "Brummbär" — advancing in Warsaw, August 1944 — of the last types, H and J, with MG 34 in a ball mantelet, side aprons to ward off hollow charges — the gun had a five-man crew.



The second-type front end of the "Brummbär" (without a machine gun) shows the covered driver's observation slit with a periscope for safer viewing — here preparing for action in Italy in 1943.(BA)

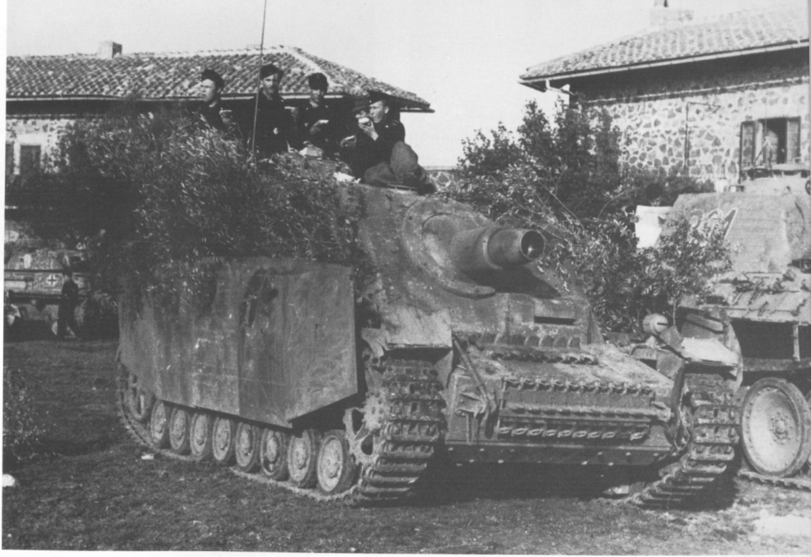
The German Ironworks firm produced a total of 306 of the "Brummbär" with chassis numbers from 80801 to 84400, 86601 to 87100 and 89101. The Army Equipment Office in Vienna mounted the bodywork, gaining a reputation for fast completion. In 1944 the heavy self-propelled infantry gun companies were "subordinated to the Panzer troops as Panzerjäger on the basis of training." What they couldn't do with such guns!



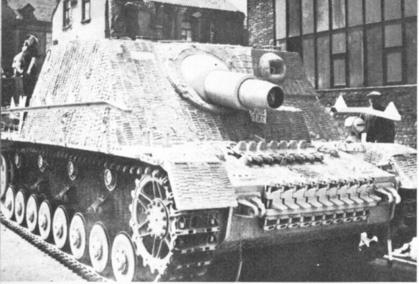


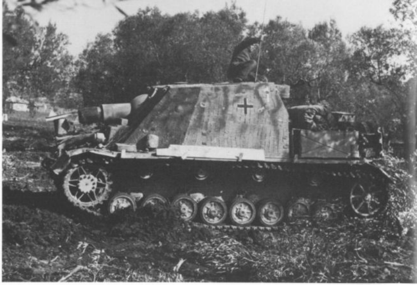
Above: A special version of the "Brummbär" in Panzer IV chassis, but with open superstructure, in Italy 1944, left side — Sturmpanzer Unit 216 was the first to take part in action at Kursk (Operation "Citadel") in July and Saporoshe in October of 1943. Sturmpanzer Units 217 to 219 fought in the east, the west and Italy.

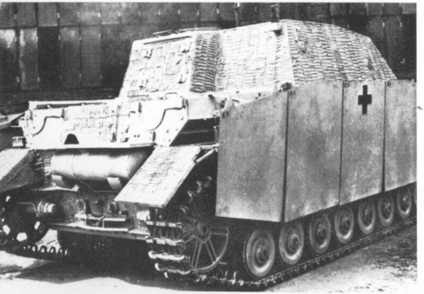
Left: A "Brummbär" (second type) captured by the Americans in Italy on July 23, 1943 — an impressive picture of this massive weapon in contrast to people and buildings.



The first version of the "Brummbär" in southern Italy in 1943, with the typical replacement barrel with a jacket, 38 shells on board, and FuG 2 and FuG 5 devices.





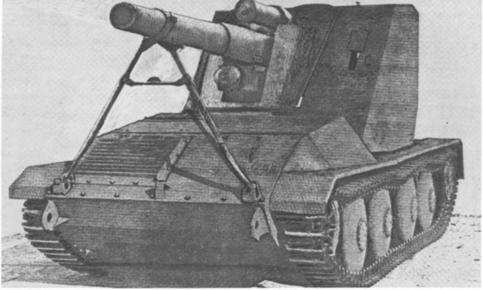


Above: A "Brummbär" in Italy in 1944. The size of the fighting compartment can be seen clearly here.(BA)

Upper and lower left: Front and rear of the last type, recognizable by a machine gun in the ball mantelet in the front armor, left of the howitzer.

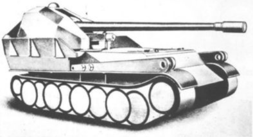
On Waffenträger I and II

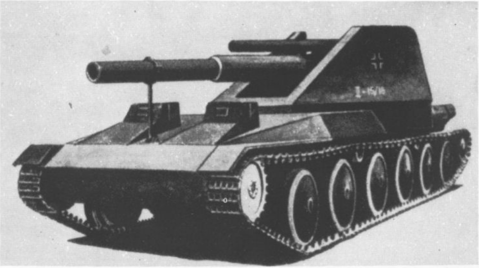
(Weapons Carrier)



Right: Waffenträger I, made by Ardelt on Panzer 38(t) to carry the heavy Infantry Gun 33/2 L/12 and L/28, intended for production, though few were made.

Below: The "Grille 15", Krupp's model, based on Waffenträger II (Ger. 5-1211).





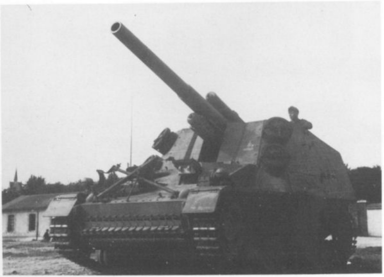
Lower right: Waffenträger II for heavy Infantry Gun 33/2, on GW 638/20 (Ger.577) and (here) Assault Howitzer 43 L/28, a superb machine that came too late.

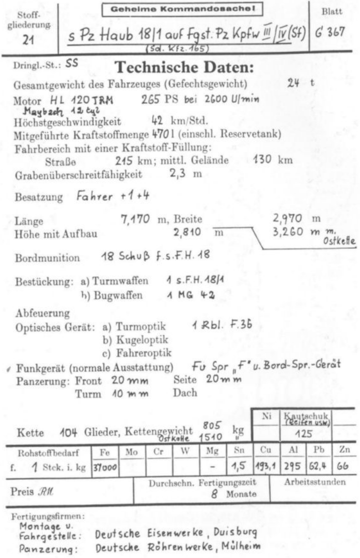
"HUMMEL"

Heavy Armored Howitzer 18/1 (self-propelled) on GW III/IV Sd.Kfz.165

There were three types: sFH 18/1 Alkett Gw III/IV "Hummel" L/29.5. shot range 13.3 km; sFH 40 Rheinmetall/DB Gw V "RhB" L/32.5, range 15.6 km; and sFH 40 Krupp Gw V "Grille 15" L/31.5, range 18 km (only a model).

The 3rd battery of each armored artillery regiment was supplied with six "Hummel" guns at the front, beginning in May of 1943. The total need was 228 guns. By the end of June 85 were at the front, by the end of December 1943, 227 of a total production of 666 guns. Despite its firepower, the shot range remained too small, and the ammunition carried was too little, so that at least two ammunition carriers were planned on for each battery.





Stoff-gliederung 21

Geheime Kommandosache!

s Pz Haub 18/1 auf Fgst. Pz Kpfw III/IV (Sf)
(Sd. Kfz. 165)

Blatt G 367

Dringl.-St.: SS

Technische Daten:

Gesamtgewicht des Fahrzeuges (Gefechtsgewicht) 24 t
Motor HL 120 TRM 265 PS bei 2600 U/min
Maybach 12 cyl
Höchstgeschwindigkeit 42 km/Std.
Mitgeführte Kraftstoffmenge 470 l (einschl. Reservetank)
Fahrbereich mit einer Kraftstoff-Füllung:
Straße 215 km; mittl. Gelände 130 km
Grabenüberschreitfähigkeit 2,3 m

Besatzung Fahrer +1+4

Länge 7,170 m, Breite 2,970 m
Höhe mit Aufbau 2,810 m 3,260 m m. Ostkette

Bordmunition 18 Schuß f. s.F.H. 18

Bestückung: a) Turmwaffen 1 s.F.H. 18/1
b) Bugwaffen 1 MG 42

Abfeuerung
Optisches Gerät: a) Turmoptik 1 Rbl. F. 36
b) Kugeloptik
c) Fahreroptik

Funkgerät (normale Ausstattung) Fu Spr „F" u. Bord-Spr.-Gerät
Panzerung: Front 20 mm Seite 20 mm
Turm 10 mm Dach

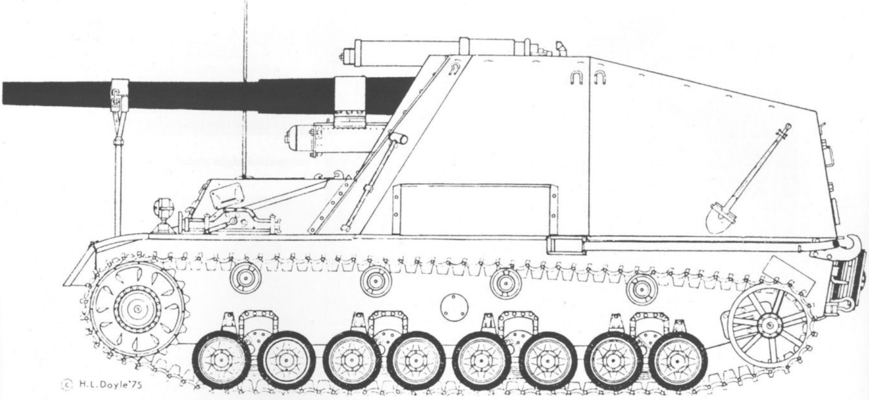
Kette 104 Glieder, Kettengewicht 805 kg
Ostkette 1510 "

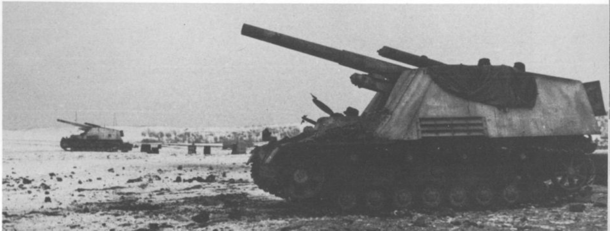
Ni	Kautschuk (Reifen usw.)	
	125	

Rohstoffbedarf	Fe	Mo	Cr	W	Mg	Sn	Cu	Al	Pb	Zn
f. 1 Stck. i. kg	37000				-	1,5	193,1	295	62,4	66

Preis RM	Durchschn. Fertigungszeit	Arbeitsstunden
	8 Monate	

Fertigungsfirmen:
Montage u. Fahrgestelle: Deutsche Eisenwerke, Duisburg
Panzerung: Deutsche Röhrenwerke, Mülheim





Parts of a battery in firing position in South Russia during the winter of 1943-44.(BA)

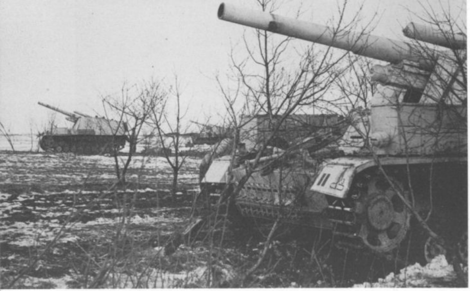
Left: The driver releases the lashing of the barrel, which is required during travel so the ordered barrel elevation can be set. As of 1942, the artillery tried in vain to separate their self-propelled mounts from tank production.(BA)

Right: Reviewing a "Hummel" battery, here of the gun echelon, equipped with the best German armored howitzer of World War II. Its firing height was 2.3 meters.

A "Hummel" battery during night barrage fire — an impressive picture.(BA)

Above: While the gunner aims, the K 2 waits for the command to fire. The leader checks the ready ammunition.(BA)

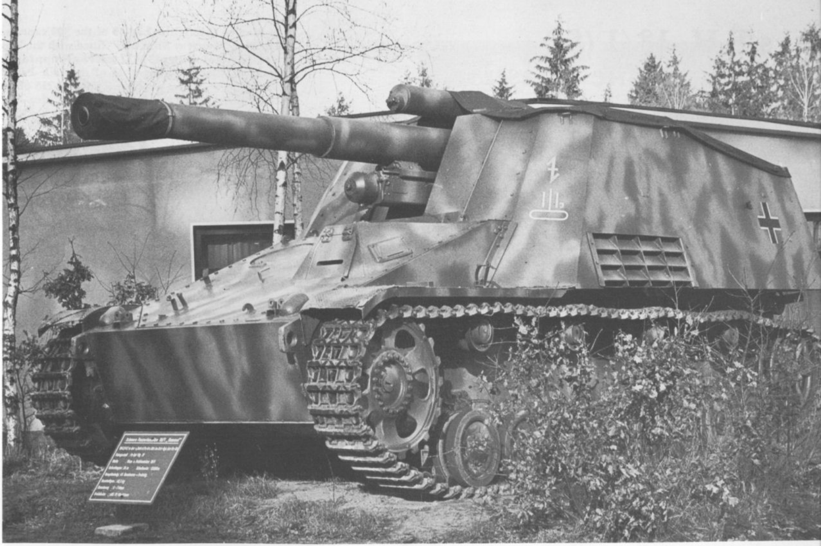
Right: After loading, the K 2 closes the breech. The target is a Russian observation post in the East Beskides on December 19, 1944. Under such difficult terrain conditions, the "Hummel" proved itself; it was much in demand, but there were too few.



3./Panzer Artillery Regiment 75 of the 3rd Panzer Division in a winter firing position, with the guns painted white.

Above: The front end of a "Hummel" of an SS Panzer artillery regiment ready to march, seen from below — at right is the driver in his open hatch, at left is a crewman in the leader's hatch, both with radios.(BA)

Left: A "Hummel" in action — at right is the K 2, who fires, in front are two ammunition movers loading and setting the shells.(BA)

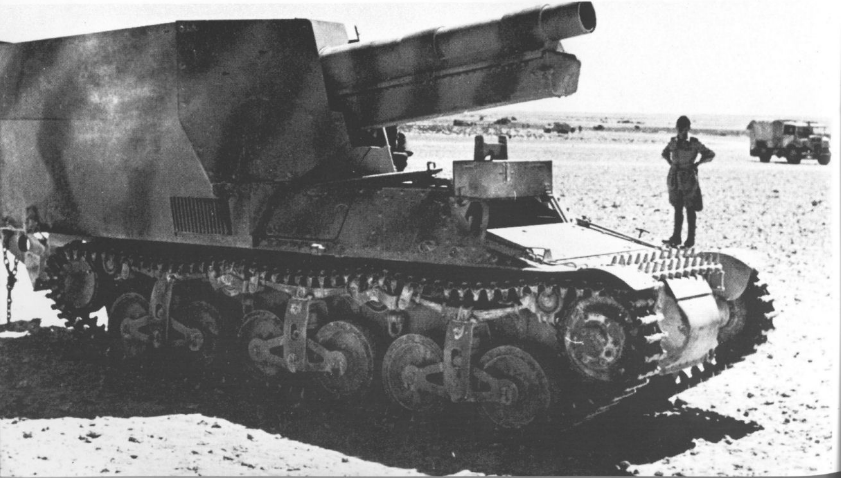


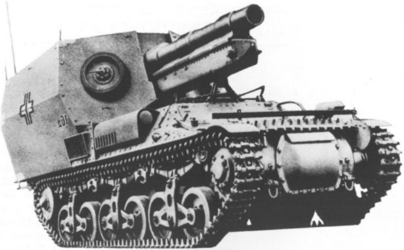
A "Hummel" of the 3./Panzer Artillery Regiment 19 of the 19th Panzer Division. in the open-air collection of Combat Training School II/III of the Bundeswehr at Munster. Its production was banned as of February 27, 1944.

s.F.H. 13/1 (Sf) on Lorraine Chassis

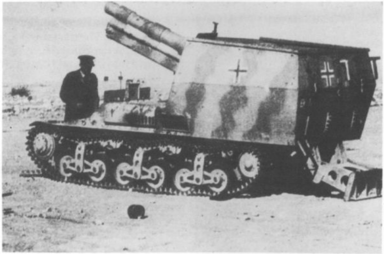
Sd.Kfz.135/1

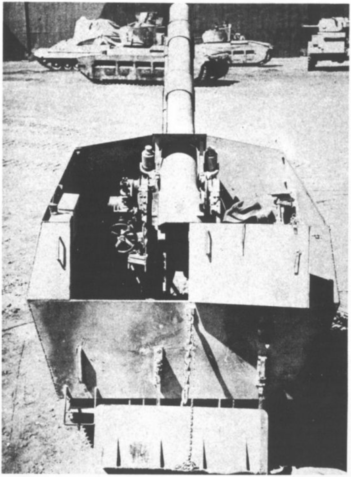
In May of 1942 Hitler had 40 of the 300 captured Lorraine "Tracteur Blinde/37" fitted with the long Heavy Field Howitzer 13 M 17 made by Krupp for the Panzer Artillery Regiment 33 of the 15th Panzer Division and Panzer Artillery Regiment 155 of the 21st Panzer Division to use in North Africa. The bodies were made by Alkett, and assembly was done in Paris. In July another 54 were built by the firm of Alfred Becker in Krefeld. There were 102 of them in all, of which 54 were still operating in France in 1944.(BA)



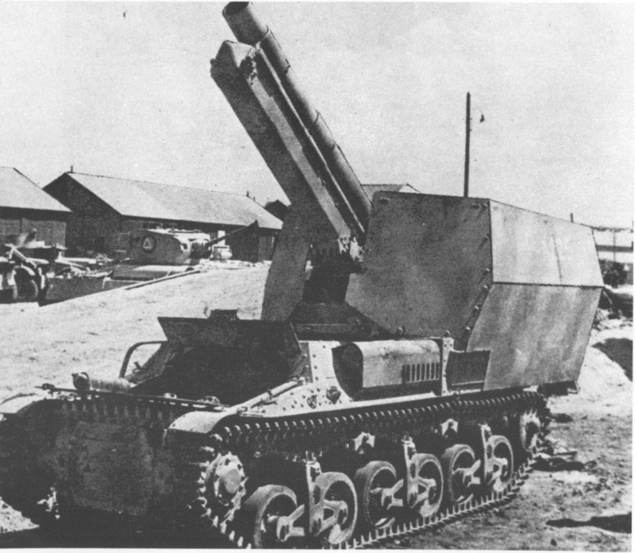


Only the suspension of the chassis was strengthened slightly.

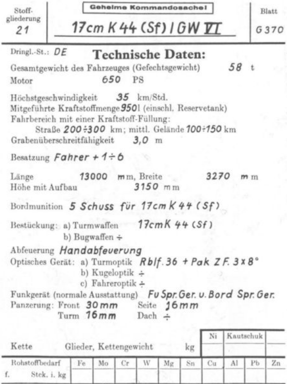




The barrel recoil was made to fit the fighting compartment, and a strong tailskid was built on at the rear to brace the chassis; it is seen at left and above, below the open fighting compartment.



The gun weighed only 8.49 tons and was 5.31 meters long, 1.83 meters wide and 2.23 meters high. It was the first self-propelled artillery gun! The armor measured 9-12mm, and 8 rounds of ammunition were carried. The Delahaye 103 TT engine moved it at 34 kph, with a range of 135 km. The battery had 4 guns, 4 officers, 21 NCO's and 73 men. Every gun had an FuG f intercom. The tractor was also used for the Panzerjäger, light field howitzer and 122mm FH (r).



Stoffgliederung 21

Geheime Kommandosache!

17cm K 44 (Sf) / GW VI

Blatt G 370

Dringl.-St.: DE

Technische Daten:

Gesamtgewicht des Fahrzeuges (Gefechtsgewicht) 58 t
Motor 650 PS

Höchstgeschwindigkeit 35 km/Std.
Mitgeführte Kraftstoffmenge 950 l (einschl. Reservetank)
Fahrbereich mit einer Kraftstoff-Füllung:
Straße 200÷300 km; mittl. Gelände 100÷150 km
Grabenüberschreitfähigkeit 3,0 m

Besatzung Fahrer + 1÷6

Länge 13000 mm, Breite 3270 mm
Höhe mit Aufbau 3150 mm

Bordmunition 5 Schuss für 17cm K 44 (Sf)

Bestückung: a) Turmwaffen 17cm K 44 (Sf)
b) Bugwaffen ÷

Abfeuerung Handabfeuerung
Optisches Gerät: a) Turmoptik Rblf. 36 + Pak ZF. 3 x 8°
b) Kugeloptik ÷
c) Fahreroptik ÷
Funkgerät (normale Ausstattung) Fu Spr. Ger. u. Bord Spr. Ger.
Panzerung: Front 30 mm Seite 16 mm
Turm 16 mm Dach ÷

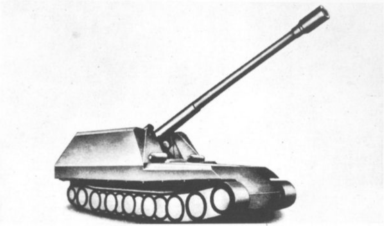
Kette	Glieder, Kettengewicht	kg	Ni	Kautschuk	

Rohstoffbedarf f. Stck. i. kg	Fe	Mo	Cr	W	Mg	Sn	Cu	Al	Pb	Zn

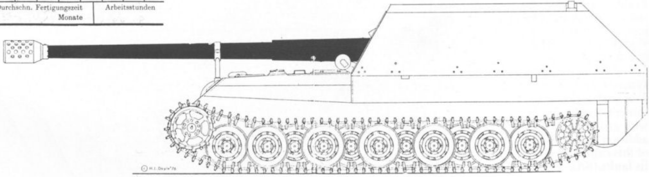
Preis RM	Durchschn. Fertigungszeit Monate	Arbeitsstunden

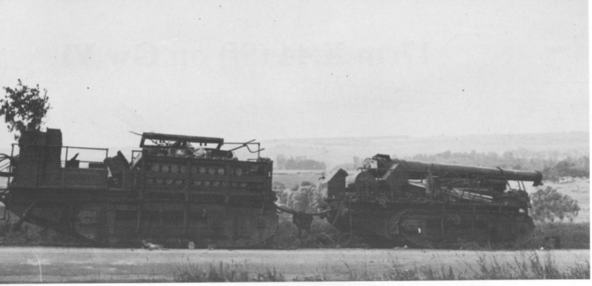
Fertigungsfirmen:

17cm K.44 (Sf) on Gw VI



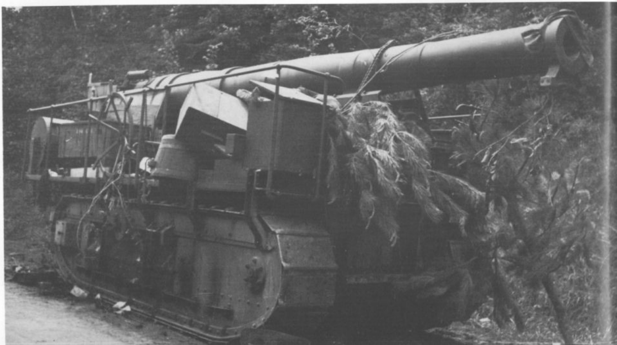
Hitler wanted to make the 17 cm cannon introduced in 1941, a superb weapon with a shot range of 29.6 kilometers, into a self-propelled gun by mounting it on the Tiger B chassis, for use in batteries of three guns, inspired by the French 19.4 cm self-propelled cannon captured in 1940. Only a prototype and plans for production were made.



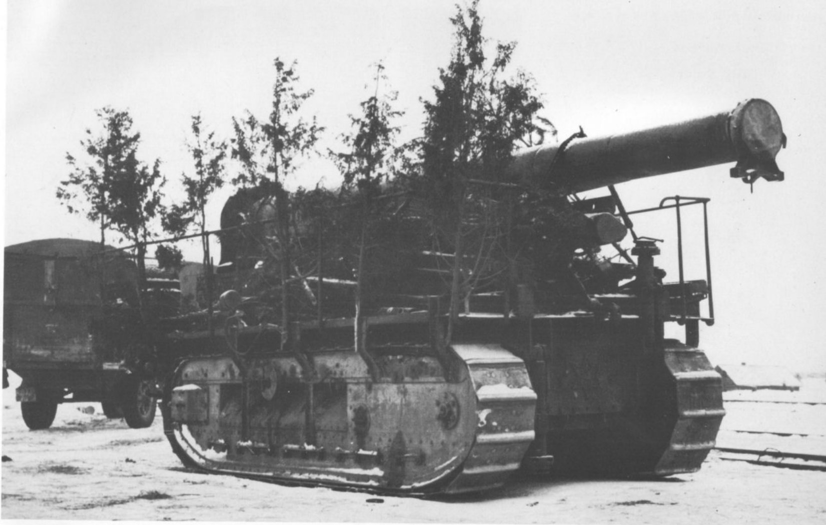


19.4 cm Cannon (Sf) (f)

Left: The 19.4 cm self-propelled Cannon M 17 L/42.4, made at St. Chamond, with its gasoline-electric generator-tractor which also carried ammunition, fired 19 km and weighed 15.6 tons in firing position. The shell weighed 79 to 83.5 kg. The designer was Lieutenant Colonel Rimailho. It was introduced in France and the USA.(BA)



Right: Both pictures show the cannon when it was captured in France in 1940. Its crew consisted of a leader, driver and six men. The Wehrmacht did not have such a gun, even though they had guns with greater ranges. In addition, heavy artillery of this caliber area had its faults.(BA)



Between two sessions of firing on Leningrad, northern Russia, November/December 1943. A battery of three guns had a survey and light measuring platoon as well as three mFK troops 12, a light Radio Troop 30 Mw, a medium Radio Troop 30 Mw, thus strong communications potential, as well as three armored full-track vehicles, one tractor, 22 trucks, 8 cars and 3 motorcycles. Its strength consisted of 3 officers, 30 non-commissioned officers and 121 men. This gun, a design dating from the end of World War I, was quite a weapon! (BA)

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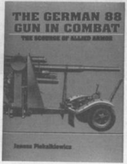
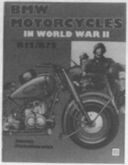
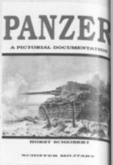
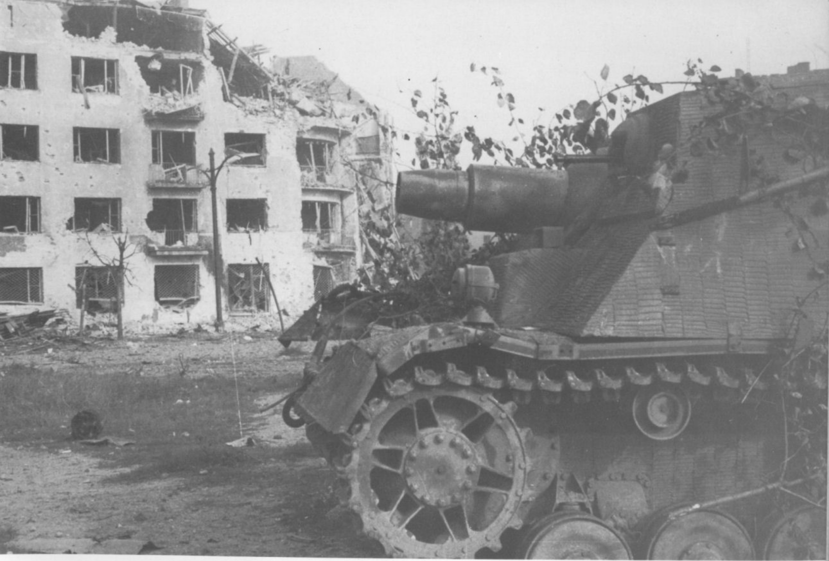
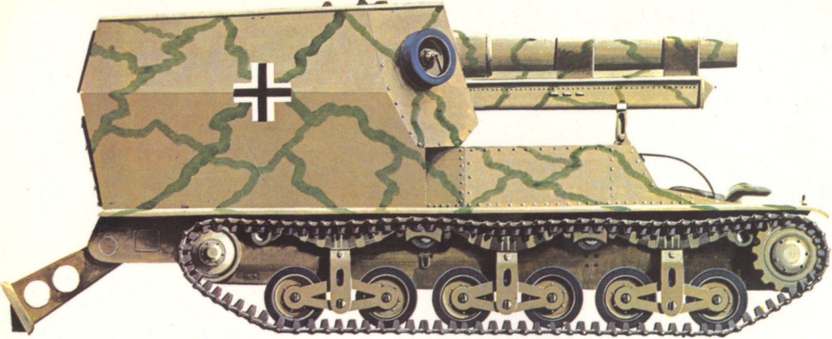








A Sturmpanzer IV, also called "Brummbär", Warsaw 1944.



Heavy Field Howitzer 13/1 (Self-propelled) on Lorraine chassis - Sd.Kfz.135/1

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